

SM150T

Soil Moisture and Temperature Sensor



- **Accurate and stable measurement**

± 3% for 0-70% VWC* range

- **Robust and buriable**

UV resistant cable with IP68 connector

- **Simple 0-1 V output (moisture)**

- **Low power: 18 mA for 1 second**

Supply 5-14 V

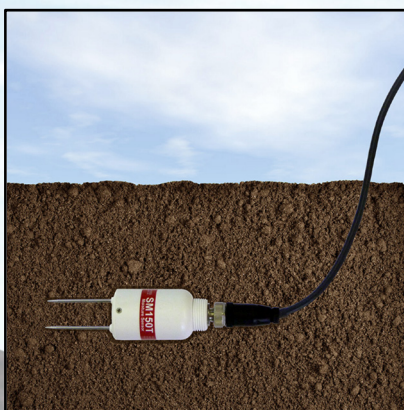
Based on over 40 years' experience in the design and manufacture of field instrumentation, the SM150T from Delta-T Devices makes the ideal soil moisture sensor for system integration.

Patented sensor electronics produce research grade measurement accuracy with exceptional salinity and temperature stability - essential for critical control and irrigation decisions.

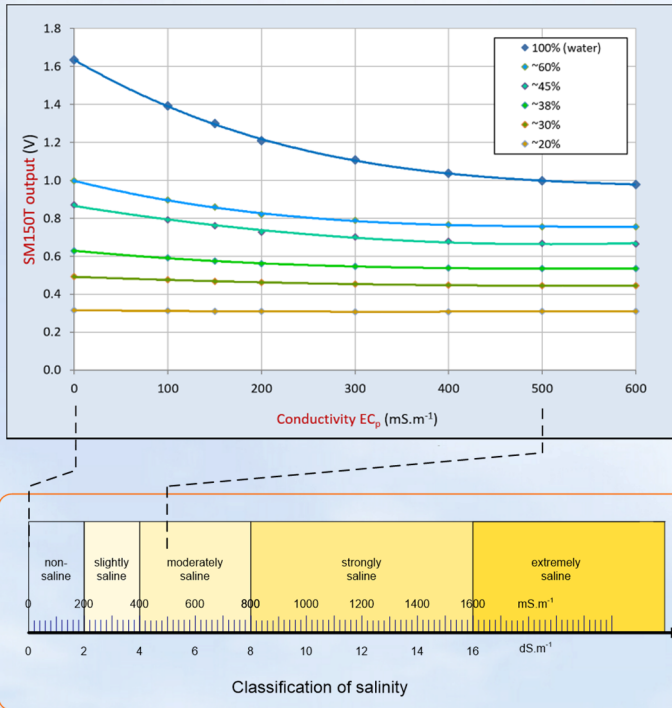
Industrial rated, UV resistant cable fitted with a waterproof IP68 connector allows the sensor to be buried indefinitely, whilst still permitting easy cable exchange or extension if necessary.

Applications: Soil calibrations are provided for general soils and substrates, or a specific soil calibration can be determined if necessary. The sensor can be installed at depth in augered holes, or buried in substrate containers.

* Volumetric water content



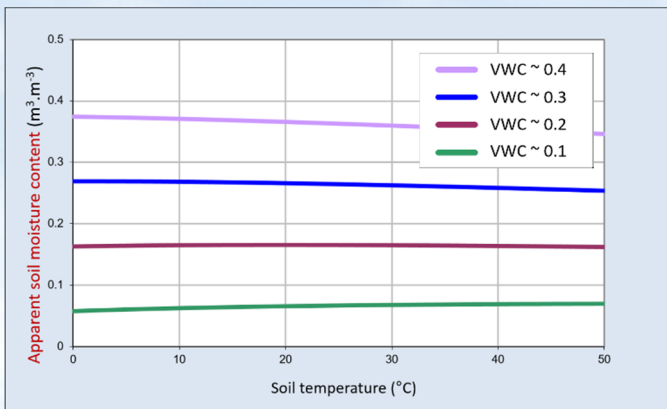
SM150T conductivity response at different water contents



Specifications

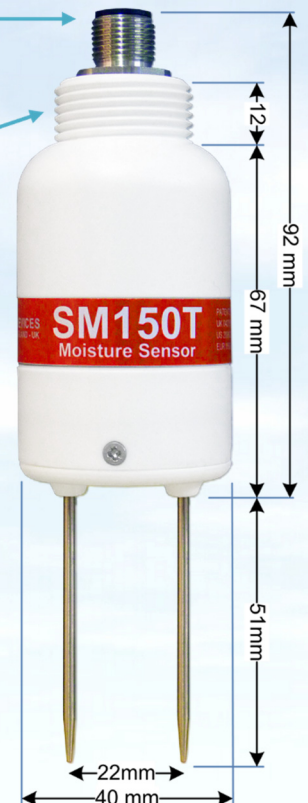
Accuracy	$\pm 0.03 m^3 \cdot m^{-3}$ (3%) volumetric water content (VWC) $\pm 0.5^\circ C$ (0 to 40°C for temp sensor)
Soil moisture measurement range	0 to 1.0 $m^3 \cdot m^{-3}$ (100%) but less accurate above 70% VWC
Salinity range	50 to 1000 $mS \cdot m^{-1}$ $\pm 5\%$ vol over 100 to 1000 $mS \cdot m^{-1}$ and 0-60% VWC
Temperature range	Full accuracy over: 0 to 60°C
Output	0 to 1.0 V differential Corresponding to 0 to $\sim 0.6 m^3 \cdot m^{-3}$
Power requirement	5-14 V, $\sim 18 mA$ for 1s Minimum 5 V with 100 m cable
Environmental	IP68 with Delta-T supplied cables
Sample volume	$\sim 55 \times 70 mm$ diameter Sample volume is weighted towards soil immediately surrounding the rods
Dimensions and weight	Overall: 143 x 40 mm diameter Rods: 51 mm x 2.5 mm diameter Weight: 0.1 kg (exc. cable)
Sensor calibrations	Individual sensors are interchangeable Recalibration advised every 3 years (depending on use)
Soil calibrations	Generalised Mineral and Organic soil calibrations are supplied

Temperature dependence of SM150T readings in a clay soil



Cable connector
sealed to IP68
M12, 5 pin, male

Thread $\frac{3}{4}$ inch BSP
for connecting to
Extension Tube



Ordering information

Also available separately	
SM150T	Soil moisture sensor with built-in temperature sensor. NB cable must be ordered separately.
SMSC/lw-05	5 m cable terminating in bare wires for connection to data loggers and controllers.
SM150T accessories for burial at depth	
ML/EX50	0.5 m extension tube
ML/EX100	1.0 m extension tube